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Under the Department of Defense (DOD) TRICARE initiative, DOD beneficiaries (excluding active duty) will be given a choice of health care systems from which to receive care. The purpose of this study was to determine whether choice of health care systems by a specific population could be predicted based upon the variables "service quality" and "customer satisfaction." Service quality was operationally defined as a gap score by subtracting expectation scores from perception scores on a battery of questions along five dimensions: tangibles, reliability, responsiveness, empathy and assurance. Customer Satisfaction was operationally defined by a self reported item on the survey instrument. Data was collected from a statistically significant sample size (n=389) representing the population of DOD beneficiaries in Northern Virginia (N=140,000) utilizing the SERVQUAL survey instrument. Using regression analysis, a statistically significant relationship was shown to exist: 1) between customer satisfaction and service quality, $t(387)=13.566$, $p<.0001$; and 2) between future choice behavior and customer satisfaction, $t(387)=13.240$, $p<.0001$. Knowledge of the relationships that exist among service quality, customer satisfaction and future choice behavior may assist in preparation for the TRICARE initiative.

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U.S. ARMY-BAYLOR UNIVERSITY

GRADUATE PROGRAM IN HEALTH CARE ADMINISTRATION

ACHIEVING ORGANIZATIONAL VISION AT THE DEWITT ARMY HEALTH CARE SYSTEM THROUGH A FOCUS ON SERVICE QUALITY

A GRADUATE MANAGEMENT PROJECT

SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR A

MASTERS OF HEALTH CARE ADMINISTRATION

BY

CAPTAIN DONALD H. HUTSON

FORT BELVOIR, VIRGINIA

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ABSTRACT

Under the Department of Defense (DOD) TRICARE initiative, DOD beneficiaries (excluding active duty personnel) will be given a choice of health care systems from which to receive care. Consequently, the vision statement for the DeWitt Army Health Care System is "To be the health care system of choice for DOD beneficiaries in northern Virginia." The purpose of this study was to determine whether choice of health care systems by a specific population could be predicted based upon the variables "service quality" and "customer satisfaction." Service quality was operationally defined as a gap score by subtracting expectation scores from perception scores on a battery of questions along the five dimensions of service quality (tangibles, reliability, responsiveness, empathy and assurance). Customer satisfaction was operationally defined by a self reported satisfaction item on the survey instrument.

Data was collected from a statistically significant sample size (n=389) representing the population of DOD beneficiaries in northern Virginia (N=140,000) utilizing the SERVQUAL survey instrument modified for use in a military medical setting. Using regression analysis, a statistically significant relationship was shown to exist: 1) between customer satisfaction and service quality, $t(387)=13.566$, $p<.0001$; 2) between future choice behavior and customer

satisfaction, $t(387)=13.24$, $p<.0001$; and 3) between future choice behavior and service quality, $t(387)=10.536$, $p<.0001$. Additionally, the study revealed a demographic profile of the DOD beneficiaries most dissatisfied with the DeWitt Army Health Care System and the dimension of service quality with which that segment is most dissatisfied.

Knowledge of the relationships that exist among service quality, customer satisfaction and future choice behavior may assist the DeWitt Army Health Care System in strategically positioning itself to achieve its organizational vision.

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CHAPTER 1

INTRODUCTION

CONDITIONS WHICH PROMPTED THE STUDY

The TRICARE initiative is a managed care program offered by the Military Health Services System (MHSS). A major focus of this program is to contain the skyrocketing cost of health care provided by civilian providers and paid through the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). Between 1985 and 1993 CHAMPUS expenditures and CHAMPUS claims, program wide, increased in excess of 100 percent (Kongstvedt 1993). During these eight years, the Department of Defense (DOD) instituted a number of programs designed to test the feasibility of utilizing managed care concepts and mechanisms in the health care delivery process. These programs included the CHAMPUS Reform Initiative (CRI), the New Orleans Managed Care Initiative, several Catchment Area Management (CAM) Projects, the Southeast Region/Preferred Provider Organization (SER/PPO) demonstration, and the Contracted Provider Arrangement (CPA)--Norfolk (Kongstvedt).

The TRICARE program is the culmination of the military managed care experience. Lessons learned during the various initiatives were incorporated into today's TRICARE program.

Through TRICARE, it is anticipated that by 1996, Department of Defense (DOD) beneficiaries in the National Capital Region (NCR) will have a choice of health care systems. The program calls for DOD beneficiaries (excluding active duty personnel) having the option of choosing from among four systems: 1) TRICARE Prime which provides a health maintenance organization (HMO) option; 2) TRICARE Extra which provides a discounted physician provider option; 3) TRICARE Standard which provides a fee-for-service option which is the same as CHAMPUS; and 4) traditional health care delivery through the local military medical treatment facility (Office of the Assistant Secretary of Defense (Health Affairs) 1994).

The implementation of TRICARE has, and will continue to have, significant impact on DeWitt Army Community Hospital (DACH). By all accounts, DACH was a "sleepy" little hospital located on a military installation on the fringe of the NCR. As such, the hospital leadership took what some might call a passive approach to providing health care to the DOD beneficiaries in the area. This approach included an attitude that the hospital would treat those patients who came through the doors if it could. Others would simply be

referred for care to civilian providers with CHAMPUS paying the bill.

This philosophy led to significant CHAMPUS expenditures in the DACH catchment area. The CHAMPUS expenditures for the DACH catchment area averaged approximately thirty million dollars each year.

During the same time period, three Primary Care for the Uniformed Services, or PRIMUS clinics, were established within the DACH catchment area (see the area map at Appendix A). These clinics were staffed by contracted civilian providers. Their mission was to provide urgent care to all DOD beneficiaries who presented for treatment. Reimbursement was at a fixed rate per patient. Funding was sustained via the DACH core operating budget. By 1994, the cost per patient visit in a PRIMUS clinic was approximately fifty dollars. This price per patient, combined with the volume seen in the PRIMUS clinics led to the annual expenditures of approximately twelve million dollars.

DACH found itself with an expanding global budget in which almost fifty percent of the dollars were paid to civilian providers to care for DOD beneficiaries within the DACH catchment area. For example, in fiscal year (FY) 1993 the DACH core operating budget was approximately thirty-six million dollars. Of that amount almost twelve million dollars was paid for PRIMUS care. An additional thirty-one

million was paid out in CHAMPUS dollars. DACH was, in essence, putting itself out of business.

In the summer of 1993, the new commander of DACH sought to change the existing passive philosophy of providing patient care that existed within the facility. Utilizing total quality management (TQM) processes and methodology, Colonel Warren A. Todd, Jr. sought a more aggressive approach to the delivery of primary care within the NCR. Colonel Todd realized that the delivery of care by a small Army community hospital located within forty miles of three military tertiary care facilities (Walter Reed Army Medical Center, National Naval Medical Center, and Malcolm Grow U.S. Air Force Medical Center) must be reengineered in order to ensure future viability of the organization (Bard 1994).

This reengineering took the form of displacing old ideas and complacent attitudes concerning the delivery of health care. The process of change began with a new vision for the hospital: To be the health care system of choice for DOD beneficiaries in northern Virginia. This vision was translated into action by the development of a comprehensive primary care network to serve northern Virginia. The primary care network would refer all specialty care to DACH or appropriate military tertiary care facilities in the NCR. Thus the facility departed from the "hospital" concept of health care and focused on the "network" concept of health

care delivery. It was with this transformation that the DeWitt Army Health Care System came into being.

By summer 1994, the following initiatives had been developed and implemented in order to achieve the vision:

1) The implementation of two core product lines: primary care and same day surgery. Primary care was further divided into five distinct product lines: 1) health promotion & wellness; 2) women's health; 3) children's health; 4) outpatient mental health; and 5) sports medicine.

2) Consolidation of services which could be performed more efficiently through reorganization. One such service was inpatient pediatrics. Because of a low average daily census, the pediatric ward was inactivated. Pediatric inpatient care became a function of either the medical ward or the surgical ward.

3) Reduction of the hierarchical structure of the organization. Appendix B depicts the new organizational chart. This "flatter" organization is consistent with the current shift away from bureaucratic structures in dynamic, professional organizations (Osborne and Gaebler 1992). This structure promotes a health care environment which is adaptable to the customer's needs with fewer levels of hierarchy to slow decision-making.

The focus on primary care led to numerous initiatives such as the development of an after hours well women's

clinic and the conversion of PRIMUS clinics to PRIMUS Plus clinics.

The well women's clinic provides services such as pap smears and mammography to beneficiaries at a clinic staffed on week nights and Saturdays. The clinic was developed by women and tailored to meet the unique needs of women. It was opened in March 1994.

On 1 August 1994, the three PRIMUS clinics were converted to PRIMUS Plus clinics. A significant element of this conversion was the assignment of military providers to these community clinics. Each clinic also began to offer a wide range of primary care services including family practice, internal medicine and pediatrics. In addition, the contract which covered the funding of PRIMUS clinics was modified from a fee-for-service model to a fixed price contract.

Each initiative was designed to make primary care available at the time and the geographical location most convenient for the patient. By doing so, the DeWitt Army Health Care System would better position itself to become the health care system of choice.

STATEMENT OF THE PROBLEM

Because of the TRICARE program and the possibility of losing non-active duty beneficiaries to civilian health care organizations, DACH has approximately eighteen months to

prove itself as the system of choice of DOD beneficiaries in northern Virginia. Since the options offered by the TRICARE initiative will cause the patient to incur some cost, the DeWitt system is appealing from this standpoint. As previously discussed, there have been a number of initiatives designed to increase patient access to primary care. The problem, therefore, is to determine if the health care provided by the DeWitt Army Health Care System is of high enough quality so that beneficiaries will choose this system over the other options offered by TRICARE.

LITERATURE REVIEW

Before one can determine whether customer expectations of quality are being met, the word "quality" must be defined. Juran offers a two-faceted definition of quality. The first includes product features (the better the features, the better the quality). The second facet includes freedom from deficiencies (the fewer the deficiencies, the better the quality) (Juran 1992). Industrial quality experts define quality as a continuous effort by all of an organization's members to meet the needs and expectations of the organization's customers (Laffel and Blumenthal 1989). Another popular definition of quality is "The degree to which a product or service conforms to the needs, wants and expectations of the consumer" (Nevers 1993). Experts agree that although at one time quality was

technologically driven, now quality is a mandate required by the consumer (Peak 1992).

The definition of quality health care has been a subject of massive research by numerous writers in professional journals. Over two thousand articles concerning quality health care have been published over the past twenty-five years (Stiles and Mick 1994). The purpose of these articles, for the most part, has been to impart unique insight into the definition, nature and measurement of quality health care.

Donabedian, considered by many to be the leading authority on quality health care, defined it as, "that kind of care which is expected to maximize an inclusive measure of patient welfare, after one has taken account of the balance of expected gains and losses that attend the process of care in all its parts" (Donabedian 1980). Others say that quality health care is "the degree to which health services for individuals and populations increase the desired health outcomes and are consistent with current professional knowledge" (Lohr 1990).

Graham defines quality health care with three distinct aspects: 1) the optimal achievable result for the patient; 2) the avoidance of provider-induced complications; and 3) the attention to patient and family needs in a cost-effective, well-documented manner (Graham 1982). Others have defined quality health care as the extent to which a

health care organization meets or exceeds the expectations of the patients (Nelson et al. 1992).

Various definitions of quality health care take into account the financial, technological or knowledge constraints of the current health care system. Others, however, argue that quality should be defined without reference to cost and other limitations (Stiles and Mick).

Expanding the Donabedian model of structure, process and outcome dimensions of quality health care, Stiles and Mick propose a nine dimension typology of quality in health care. The nine dimensions are structure technical, structure interpersonal, structure amenities, process technical, process interpersonal, process amenities, outcome technical, outcome interpersonal, and outcome amenities (Stiles and Mick). Graham delineates quality health care into three forms: technical, scientific and "the art of care" (Graham). Babakus and Mangold delineate quality health care into two forms: technical quality and functional quality (Babakus and Mangold 1992).

Technical quality, sometimes referred to as outcome quality, involves what the customer actually receives from the service or what is delivered by the service provider (Richard and Allaway 1993). Technical quality in health care delivery may be defined as the technical accuracy of diagnosis and procedures (Babakus and Mangold). Technical quality may be measured by indices such as mortality rates,

morbidity rates, and readmission rates. The measurement of technical quality, while an important aspect of quality health care, is beyond the scope of this research.

Functional quality, sometimes referred to as process quality, involves the way the service is delivered to the consumer (Richard and Allaway). Functional quality in health care delivery describes the manner in which health care is delivered to the patient (Babakus and Mangold). Thus functional quality is often associated with service quality.

Service quality is defined as meeting or exceeding what the customer expects from the particular service (Zeithaml, Parasuraman and Berry 1990; Parasuraman, Zeithaml and Berry 1994). Service quality has also been defined as the customer's assessment of the overall excellence or superiority of a service (Richard and Allaway). It is measured by a comparison of customer expectations with perceptions of the actual service performed. Service quality expectations must be met or exceeded by perceived outcomes of the service experience in order for a business to achieve long-run financial viability or a competitive advantage (Richard and Allaway; Headley and Miller 1993).

Functional or service quality may be represented by the following five dimensions: 1) tangibles--represented by the appearance of physical facilities, equipment and personnel; 2) reliability--represented by the ability to perform a

service accurately and dependably; 3) responsiveness--represented by the willingness to provide prompt service; 4) assurance--represented by the knowledge and courtesy of the employees coupled with their ability to inspire trust and confidence; and 5) empathy--represented by caring, personalized attention (Zeithaml, Parasuraman and Berry; Babakus and Mangold).

Indicators of acceptable service quality in health care delivery include market share and return on investment. Health care delivery, as a service industry, has grown to adopt the concept of consumerism. That is, that consumers must receive what they perceive to be quality health care at a price that they can afford (Scardina 1994). The challenge for those involved in health care delivery, then, is to determine what the patient/customer expects from quality health care institutions, what he or she perceives about the quality of the health care provided by a specific institution, and then do their best to meet or exceed the patient's expectations.

In a theoretical framework, the service quality provided by a health care institution will influence patient satisfaction which will, in turn, influence future purchase decisions (Taylor 1994). Service quality has been found to have a strong association with a patient's intention to return to the same health care provider (Woodside, Frey and Daly 1989).

A 1993 study found that a significant relationship exists between service quality and behavioral intentions such as intent to repurchase, compliment, complain, recommend, switch providers or refrain from using medical services (Headley and Miller; Richard and Allaway). This study concluded that there are predictable relationships between perceived service quality and behavioral intentions. Positive perceptions concerning service quality are associated with consumers' intent to repurchase or compliment. Negative perceptions concerning service quality are associated with consumers' intent to avoid the service or complain (Headley and Miller).

In health care encounters, patients enter into the situation with expectations. Throughout the encounter, the patient gains experiences or perceptions about the encounter. The difference between the expectations and the perceptions results in satisfaction (if perceptions are at least equal to expectations) or dissatisfaction (if perceptions are less than expectations) (Steiber and Krowinski 1990). In order to achieve brand loyalty, operationally defined as return business, services must be equal to or greater than expectations.

The importance of customer or patient perceptions must be emphasized. Babakus and Mangold suggest that perceived quality is the single most important variable influencing value perceptions (Babakus and Mangold). Customers act upon

their perceptions in decisions to purchase or not purchase (Juran). Customer perceptions of service quality are very predictive of their overall satisfaction and willingness to use the service again (Woodside 1991). Health care organizations must have standardized and validated measures or patients' perceptions of quality in order to achieve competitive advantage (Nelson et al.).

A recent study, the Profit Impact Market Strategy (PIMS), documented a significant link between customer perceptions of quality and market share. Data on three thousand business units in 450 companies revealed that businesses which ranked in the top fifth for perceived quality out-earned their peers by a two to one margin (Labovitz, Chang, and Rosansky 1993). Improving the perception of quality health care services leads to increased demand for services, decreased operating costs, and increased earnings (Nelson et al.).

Omachonu asserts that delivering quality health care measured by quality standards set forth by the Joint Commission for Accreditation of Healthcare Organizations (JCAHO) or other regulating bodies will be to no avail if patients perceive that the organization provides inferior service (Omachonu 1990). This is to say that even JCAHO accreditation may do a hospital little good if consumers perceive poor quality.

Customer or patient expectations are as important as perceptions in the quest for service quality in health care. Laffel and Blumenthal assert that quality expectations which result from patients' experiences and their assessments of results are valid indicators of quality (Laffel and Blumenthal). Research has shown that organizations must tailor services to meet (and preferably exceed) the expectations which are of the greatest importance to the customers (Leebov and Ersoz 1991). A 1992 study of over fifteen thousand patients from fifty-one investor-owned hospitals revealed that meeting patient expectations was associated with financial strength (Nelson et al.).

The degree to which organizations meet patient expectations determines the degree to which the customer will be satisfied. Accordingly, the degree to which customers are satisfied determines organizational success or failure (Steiber and Krowinski). Many hospitals are beginning to focus on the link between patient expectations and customer satisfaction (Inguanzo 1992).

Applying this theoretical framework to the mission of achieving the vision in the DeWitt Army Health Care System, the theoretical framework becomes, "The achievement of a level of service quality which meets or exceeds patient expectations will lead to increased patient satisfaction which will, in turn, lead to the choice of the DeWitt Army

Health Care System over TRICARE Prime, TRICARE Extra or TRICARE Standard in 1996".

PURPOSE

The purpose of this study is to determine whether the choice of health care systems by a specific population can be predicted based upon the variables "service quality" and "customer satisfaction."

The first hypothesis is that customer satisfaction is a function of service quality. This relationship has been found to exist in the literature (Parasuraman, Berry and Zeithaml 1993). Current literature suggests that service quality is an antecedent of customer satisfaction (Parasuraman, Zeithaml, and Berry; Woodside). Service quality is operationally defined as a gap score by subtracting expectation scores from perception scores on a battery of questions along each of the five dimensions of service quality:

$$\text{service quality} = (p\{i\} - e\{i\})$$

where p = perception of service quality; e = expectation of service quality; and {i} = the specific dimension of service quality (tangibles, reliability, responsiveness, assurance and empathy). Customer satisfaction is operationally defined by a self-reported item on the survey instrument. Formally stated, the alternate hypothesis is:

$$\text{customer satisfaction} = f\ (\text{service quality})$$

The null hypothesis is that customer satisfaction is not a function of service quality.

The second alternate hypothesis concerns the relationship between customer satisfaction and choice of health care systems. Choice of health care systems is operationally defined by a self-reported item on the survey instrument. Formally stated, the alternate hypothesis is:

choice of systems = f(customer satisfaction)

The null hypothesis is that choice of systems is not a function customer satisfaction.

A third hypothesis will test the relationship between service quality and self-reported intentions to choose a health care system. Formally stated, the alternate hypothesis is:

choice of systems = f(service quality)

The null hypothesis is that the choice of systems is not a function of service quality.

In addition to testing these three hypotheses, an analysis of the gap scores are included in order to determine if gaps exist between customer expectations of excellent health care and perceptions of the service quality across the five dimensions (tangibles, reliability, responsiveness, assurance and empathy) provided by the DeWitt Army Health Care System.

CHAPTER 2

METHOD AND PROCEDURES

The methodology used for this research was the administration of the SERVQUAL survey instrument modified for hospital services. The original SERVQUAL instrument was developed in the late 1980s as a multi-item instrument to measure service quality as perceived by the customer (Zeithaml, Parasuraman and Berry; Richard and Allaway). The instrument operationalizes and measures service quality along the five dimensions listed earlier.

Reliability and validity tests for the original instrument have determined that SERVQUAL is both valid and reliable across service industries (Richard and Allaway). Construct validity and nomological validity have been shown by factor analysis (Carman 1990). Reliability has been shown utilizing a coefficient alpha reliability measure. In the Carmen study, the mean alpha was .75 with over fifty percent of the items within an acceptable range for use in commercial applications (Carman).

In 1992, the original instrument was modified for use in health care environments (Babakus and Mangold). The modified instrument contained fifteen pairs of items. One half of the items were intended to measure expectations of

service quality in excellent health care organizations. The other fifteen matching items were intended to measure the perceived level of service quality in a particular health care organization. Both sets of items were presented in a five-point Likert scale response format with the anchors "strongly agree" and "strongly disagree" (Babakus and Mangold).

The SERVQUAL service quality measurement instrument was shown reliable and valid for use in medical settings as the original instrument was in non-medical settings (Headley and Miller). The modified SERVQUAL instrument demonstrated acceptable levels of both reliability and validity. In a 1994 study concerning the service quality of nursing utilizing the SERVQUAL instrument, content validity was shown by the assessment of expert sources and by input from the respondents (Scardina). Reliability was determined by utilizing an alpha coefficient as an index of internal consistency. In this study, the coefficients ranged from .74 to .98 with the exception of one dimension (Scardina). Similar results were presented by Babakus and Mangold concerning the fifteen-item SERVQUAL instrument (Babakus and Mangold).

The current literature offered no examples of the SERVQUAL instrument utilized in a military health care setting. However, only one modification was needed. One paired item concerning billing was excluded from the

instrument since the military does not normally bill individuals for health care. This modification was completed with the express consent of Dr. Babakus (Emin Babakus, letter to the author, August 1994).

Fourteen paired items remained after the billing item was excluded. Three paired items focused on tangibles. Two paired items focused on reliability. Three paired items focused on responsiveness. Four paired items focused on assurance. Two paired items focused on empathy. Respondents were also asked to weight each dimension by allocating points to a statement concerning a dimension based upon the importance they placed on that dimension. In addition to the items concerning the dimensions of service quality, a limited amount of demographic data was obtained from each respondent.

The survey instrument was first administered to a convenience sample of ten respondents during a one week period. The purpose of this pre-pilot study was to ensure that the instrument was clearly written and easily understood. The time needed to complete the survey ranged for four to fifteen minutes. Comments received from the respondents led to minimal changes in the format of the instrument.

Because of the intent to examine the relationships between service quality, customer satisfaction and choice of behavior, two items were added to the survey instrument:

1) In terms of quality of care received at the DeWitt Army Health Care System, I am ... (very dissatisfied to very satisfied on a five-point Likert scale).

2) Given the opportunity, I would choose to receive health care services at: 1) the DeWitt Army Health Care System; 2) a military medical center such as Walter Reed; or 3) a civilian health care system.

Examples in the current literature support the use of self-reported items to depict both customer satisfaction and behavioral intent such as choice of systems (Babakus and Mangold; Headley and Miller).

A pilot study was conducted at DeWitt Army Community Hospital on 21 September 1994. Appendix C contains the complete survey instrument entitled the DeWitt Army Health Care System Quality Health Care Questionnaire. The instrument was administered to sixty-seven customers who had entered the facility for non-clinical reasons. Of the sixty-seven instruments, eight were returned blank, eight were returned incomplete and fifty-one were returned completed (n=51). Sampling bias was reduced by giving the instrument to all customers who entered the administrative office that day.

Consistent with accepted ethical practice, all participants were informed of the nature of the survey. All participants were informed that the survey was voluntary. Furthermore, all participants were informed that the survey

was completely anonymous and that no attempt would be made to identify any person based upon his or her answers.

Validity, which measures the accuracy or effectiveness of an instrument, was inferred from previous studies which utilized the SERVQUAL instrument. Reliability, which measures the precision or efficiency of a variable, was also inferred from previous studies. Reliability was also tested for the pilot study utilizing a coefficient alpha reliability measure. The coefficient alpha was determined by first computing a randomized blocks analysis of variance (ANOVA) on MICROSTAT statistical software and then using the following formula:

alpha = 1 - (mean square error/mean square treatments)

Table 1 depicts the reliability coefficients for the five dimensions of service quality depicted in the pilot study. Acceptable levels for reliability are .70 and above. Dimensions which depict "n/s" did not achieve statistical significance in the pilot study. All other relationships were significant at the $p<.001$ level. Expectation scores, as a group, achieved a coefficient alpha of .9333 ($F(13,650)=15.000$, $p<.001$). Perception scores, as a group, achieved a coefficient alpha of .8475 ($F(13,650)=6.560$, $p<.001$). The SERVQUAL scores across all five domains achieved a coefficient alpha of .8132 ($F(13,650)=5.352$, $p<.001$). Because these coefficients were within the

acceptable levels for reliability, the instrument was accepted as reliable for the purpose of this research.

Table 1.--Reliability Coefficients, by Service Dimensions

Expectation/Perception	Dimension	Alpha
Expectation	Tangibles	.9690
Expectation	Reliability	n/s
Expectation	Responsiveness	.9146
Expectation	Assurance	n/s
Expectation	Empathy	.9562
Perception	Tangible	.9659
Perception	Reliability	n/s
Perception	Responsiveness	.8420
Perception	Assurance	.8364
Perception	Empathy	n/s

Using regression analysis, the three hypotheses were tested to determine whether the hypothesized relationships existed. Results of the pilot study revealed that statistically significant relationships did exist between the variables in the three hypotheses. However, due to the small sample size used during the pilot study (n=51), generalizations concerning the entire population (N=140,000) could not reasonably be inferred.

Based upon the validity of the instrument demonstrated in the current literature and the reliability of the instrument demonstrated in both the literature and

statistical analysis of the pilot study data, the survey instrument was accepted for use on a larger scale. However, one item of the survey instrument was changed after the pilot study. The final item of the survey, "Given the opportunity, I would choose to receive primary health care services at: 1) the DeWitt Army Health Care System; 2) a military medical center such as Walter Reed; or 3) a civilian health care system" was changed to reflect only two choices: the DeWitt Army Health Care system or a civilian health care system. This change was based upon the conditions which prompted the study. More specifically, the study was based upon the premise that under TRICARE, certain beneficiaries would be given a choice of receiving their care in a military health care system or from a civilian health care system. The inclusion of military medical centers as a third choice may have obfuscated the issue of choice.

During the period 7 November 1994 to 16 December 1994, the survey instrument was administered to six hundred members of the Fort Belvoir/northern Virginia military community (active duty, family members, retirees and retiree family members). Since the DOD beneficiary population in northern Virginia consists of approximately 140,000 individuals, a sample size (S) of 388 was required for a statistically significant sample with a ninety-five percent confidence level (Krejcie and Morgan 1970). Of those six

hundred instruments, 182 were not returned at all. Twenty-nine instruments were returned with significant omissions such that the instrument was determined to be unusable. The number of usable surveys was 389 (n=389). This sample size met the goal for a statistically significant sample size for a population of 140,000 (N=140,000).

Demographic data compiled during the study revealed that the mean age of the respondents was 43.57 years old. Forty-one percent of the respondents were male. Twenty-three percent were active duty military. Thirty-two percent were active duty dependents. Twenty-one percent were retirees. Twenty-one percent were retiree dependents. Three percent did not fall into one of the four categories and were classified as "other." The mean number of visits to the DeWitt Health Care System within the past twelve months per respondent was 6.7.

The same ethical considerations used in the pilot study were maintained throughout the research. All participants were informed of the nature of the survey. All participants were informed that the survey was voluntary. Furthermore, all participants were informed that the survey was completely anonymous and that no attempt would be made to identify any person based upon his or her answers.

CHAPTER 3

THE RESULTS

The results of the research depict the following: 1) the SERVQUAL instrument is reliable for use in a military health care setting; 2) statistically significant relationships do exist among service quality, customer satisfaction and future purchase behavior; 3) the perceptions of the level of service quality currently provided by the DeWitt Health Care System does not meet customer expectations; and 4) the reliability of service is the dimension of service quality that customers report being most important.

Although the reliability of the instrument was shown to exist in both the literature and the pilot study, the coefficient alphas were determined for the actual data. All dimensions of service quality (for both expectations and perceptions) achieved an alpha level significantly greater than the acceptable level of seventy percent (see table 2). The coefficient alphas were computed using the Analysis of Variance: Two Factor without Replication contained in the Analysis Tools portion of Microsoft Excel (Version 3.0) software.

Table 2.--Reliability Coefficients, by Service Dimensions

Expectation/Perception	Dimension	Alpha
Expectation	Tangibles	.9914
Expectation	Reliability	.9036
Expectation	Responsiveness	.9796
Expectation	Assurance	.8701
Expectation	Empathy	.9933
Perception	Tangible	.9919
Perception	Reliability	.9131
Perception	Responsiveness	.9453
Perception	Assurance	.9697
Perception	Empathy	.9644

The study revealed that statistically significant relationships exist among the variables in the three hypotheses. The first alternate hypothesis stated that customer satisfaction is a function of service quality (operationally defined as SERVQUAL scores). This relationship was shown to be statistically significant using regression analysis: $t(387)=13.5660$, $p<.0001$ and $F(1,387)=184.0374$, $p<.0001$. Based upon these results, the null hypothesis was rejected and the alternate hypothesis was accepted. Customer satisfaction is a function of service quality.

The second alternative hypothesis stated that choice of the DeWitt Health Care System is a function of customer

satisfaction. This relationship was shown to be statistically significant using regression analysis: $t(387)=13.2402$, $p<.0001$ and $F(1,387)=175.3050$, $p<.0001$. Based upon these results, the null hypothesis was rejected and the alternate hypothesis was accepted. Choice of the DeWitt system is a function of customer satisfaction.

The third alternate hypothesis stated that choice of the DeWitt Health Care System is a function of service quality. This relationship was shown to be statistically significant using regression analysis: $t(387)=10.5360$, $p<.0001$ and $F(1,387)=111.0083$, $p<.0001$. Based upon these results, the null hypothesis was rejected and the alternate hypothesis was accepted. Choice of the DeWitt system is a function of service quality.

An analysis of the mean SERVQUAL scores by dimension revealed the gap between the customers expectations of service quality and their perceptions of the service quality provided by the DeWitt Health Care System. Table 3 depicts the mean SERVQUAL score for each dimension of service quality.

Table 3.--SERVQUAL Scores by Dimension of Service Quality

Dimension	SERVQUAL Score
Tangibles	-.1464
Reliability	-.3616
Responsiveness	-.1818
Assurance	-.1869
Empathy	-.1181

Additional information gained from the survey includes the relative importance that customers place upon the five dimensions of service quality. As stated earlier, respondents were asked to weight each dimension by allocating points to a statement concerning the dimension. The weighting was based upon the importance placed upon the particular dimension. The total points allocated per respondent was equal to 100. Table 4 depicts the mean weights associated with the five dimensions of service quality.

Table 4.--Mean Weights of Dimensions of Service Quality

Dimension	Mean Weight
Tangibles	15.30
Reliability	31.26
Responsiveness	18.58
Assurance	18.78
Empathy	15.82

The coefficient alpha for the weight factors was .9932, $F(4,1552)=147.07$, $p<.0001$. This analysis depicts the customer's desire for reliable health care services. That is, customers place great importance on health services being provided dependably and accurately. Appendix D depicts the descriptive statistics for the fourteen paired items.

CHAPTER 4

DISCUSSION

As stated earlier, there were no accounts in the current literature which discussed the use of the SERVQUAL instrument in a military health care setting. The results of this research show that modifications may be made to the original SERVQUAL instrument without compromising its reliability, thus making it applicable to the military health care setting. The alpha coefficients for all of the dimensions and the weighting factors were well above the seventy percent standard recommended by the current literature.

Based upon the high reliability coefficients, the statistical significance of the sample size, and the statistical significance of the hypothesized relationships, the results should be examined closely to determine the implications for the Dewitt Army Health Care System. For example, the acceptance of the alternate hypothesis for the three hypotheses tested indicates that the theoretical model is true: the level of service quality influences customer satisfaction which, in turn, influences future purchase choice behavior.

The relationships between the hypothesized variables deserves further examination. As reported earlier, a statistically significant relationship exists between service quality and customer satisfaction. Additionally, thirty-two percent of the variance in service quality is accounted for by variance in customer satisfaction (r^2=.32). Furthermore, a one point increase in service quality (the independent variable) is associated with a .6 increase in customer satisfaction (the dependent variable).

The mean SERVQUAL score aggregated across all five dimensions, weighted according to the level of importance and averaged for the 389 respondents was equal to -.9950. This number was then used as "x" in the linear equation:

$$y=a+bx$$

where y = the predicted score of customer satisfaction; a = the y intercept; and b = the slope. The linear equation for this relationship then became:

$$y=4.374+.599(-.9950)$$

In this equation, y is equal to 3.777. This number, which represents the level of customer satisfaction, when put back into the context of the five-point Likert scale, falls into the range between "neutral" and "satisfied." However, if the level of service quality is increased one point, y becomes equal to 4.374. This number falls into the range "satisfied" to "very satisfied." Therefore, if the DeWitt system could implement measures which raised SERVQUAL scores

by .2 across each of the five dimensions, one would expect the mean score for customer satisfaction to be 4.374 on a five-point Likert scale.

This analysis becomes very useful when used in the context of the second hypothesis: choice of health care systems is a function of customer satisfaction. As stated earlier, this relationship was shown to be statistically significant. The shared variance between these two variables was .31 (r^2=.31). The linear equation for this relationship was:

$$y=-.307+.2634(x)$$

When customer satisfaction (now the independent variable-x) is equal to the computed y of the first equation (3.77), the choice of health care systems (y) is equal to .686. According to this analysis, given a choice of systems in which to receive primary care services, sixty-nine percent of the beneficiaries would choose the DeWitt Army Health Care System. Thirty-one percent would choose a civilian health care system. This thirty-one percent represents 43,400 beneficiaries. Based upon the self-reported utilization rate captured in the demographic data (6.7 visits per year), 43,400 beneficiaries would account for 290,780 patient encounters per year. This figure represents the annual number of patient encounters that would be conducted and financed outside the DeWitt Army Health Care System.

However, continuing the assumption made regarding the first hypothesis that a one point increase in service quality would lead to a customer satisfaction level of 4.37, the new linear equation would become:

$$y=-.307+.2634(4.37)$$

Based upon the increased level of customer satisfaction, eighty-four percent of the beneficiaries would choose the DeWitt Health Care System over a civilian health care system. Only sixteen percent (or 22,400 beneficiaries) would opt for a civilian health care system. Based upon the self-reported utilization rate, 22,400 beneficiaries would account for 150,080 patient encounters annually.

In summary, a one point increase in service quality and its corresponding .6 change in customer satisfaction would result in: 1) an increase of 21,000 beneficiaries choosing the DeWitt Army Health Care System over a civilian health care system; and 2) a decrease of 140,700 patient encounters lost to civilian health care systems (see table 5).

Table 5.--Changes in Future Purchase Behavior

SERVQUAL Score	Satis-faction	Choose DeWitt	Choose Civilian	Lost Encounter
-.9950	3.77	96,000	43,400	290,780
0.0050	4.374	117,600	22,400	150,080
+1	+.6	+21,000	-21,000	-140,700

The increase of 21,000 patients and the decrease of 140,000 patient encounters is based upon the assumption that the level of service quality (operationally defined as the SERVQUAL score) can be increased. The SERVQUAL instrument contains two variables which may be adjusted: expectations and perceptions. That is, to effect a positive change in the SERVQUAL score either expectations must be decreased or perceptions must be increased. An analysis of the data is needed in order to determine how that change might be implemented. More specifically, the data provided by those who responded that given a choice, they would choose a civilian health care system were segregated from the total data for analysis.

Table 6 depicts the demographic data reported by those individuals who reported that they would choose a civilian health care system (n=169). For comparison purposes, the demographic data for the entire sample (n=389) is included. The column on the extreme right depicts the difference.

Table 6.--Comparison of Demographic Data

Item		Choose Civilian	Total	Difference
Age		27.65	43.57	-15.92
Gender	male	27%	41%	-14%
	female	73%	59%	+14%
Active Duty		22%	23%	-1%
AD Dependant		41%	32%	+9%
Retiree		8%	21%	-13%
Retiree Dependant		6%	21%	-15%
Other		1%	3%	-2%
Visits in Last 12 Months		6.25	6.70	-.45

Based upon the data presented in table 6, a profile of the customers who would choose a civilian health care system would depict a female, dependant of an active duty service member in her mid-twenties. This information could be used to develop marketing strategies focused on a specific segment of the population. However, further analysis is warranted to determine what should actually be marketed to that segment.

Table 7 depicts the mean SERVQUAL scores along the five dimensions of service quality for the group who reported that they would choose a civilian health care system. Again, for comparison purposes, the mean scores for the aggregate group are included along with the difference (reported as an absolute value).

Table 7.--Comparison of SERVQUAL Scores

Dimension	Choose Civilian	Total	Absolute Difference
Tangibles	-.1709	-.1565	.0144
Reliability	-.4930	-.3616	.1314
Responsiveness	-.2399	-.1819	.0580
Assurance	-.2280	-.1870	.0410
Empathy	-.1594	-.1182	.0412

The customers who would choose a civilian health care system reported a greater gap score between their perceptions of the reliability of service provided by the DeWitt system and their expectations of excellent health care systems. This result, combined with the fact that reliability of service was the most heavily weighted factor among the five dimensions of service quality emphasizes the need for reliable services.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

The level of service quality provided by the DeWitt Army Health Care System was appropriate to retain sixty-nine percent of the patient population. However, sixty-nine percent of the beneficiary population is only partially in compliance with the organizational vision. While over two-thirds of the DOD beneficiaries of northern Virginia will choose this system once they are given a choice under the TRICARE initiative, the DeWitt system stands to lose thirty-one percent of the beneficiary population.

As stated earlier, the DeWitt system has approximately eighteen months in which to strategically position itself for TRICARE. The following recommendations should be implemented to assist with the strategic positioning plan.

First, the DeWitt system should focus its marketing strategy on that group of people who are most likely to choose a civilian health care system. The marketing strategy should target females who are in their mid-twenties and are dependents of active duty soldiers. This group can be found in numerous activities such as officer's wives club meetings, enlisted wive's club meetings, the DeWitt Well

Women's Clinic, obstetrics registration, and prepared childbirth classes.

Second, the DeWitt system should focus its marketing effort on the dimension of service quality which its customers deem most important, and the dimension which its customers report the greatest gap between their perceptions and their expectations. This dimension, in both cases, is reliability of service. The DOD beneficiaries in northern Virginia must be convinced that health services will be provided dependably and accurately.

The phrase "dependably and accurately" entails numerous aspects of service. It means that services must be performed correctly the first time. It means that the DeWitt system must provide its services at the time it promises to do so. It also means that the DeWitt system must keep its records accurately (Richard and Allaway). When a problem arises with a service, the customers must perceive that DeWitt's employees are sympathetic to the needs of the patient regarding the service. Customers must never feel "abandoned" when a service problem arises.

The DeWitt system should build a marketing strategy to address those concerns. This marketing strategy should promote the strengths of the system along the dimension of reliability. The strategy should also strive to provide patient education concerning the time needed to perform a service; the average waiting time associated with a service;

the estimated incidence of having to repeat the service; and the appropriate steps to take should a problem arise during any aspect of the service. This patient education (whether provided in a patient handbook, by a provider in a clinic, or via advertising brochures) should modify unrealistic patient expectations (John 1992). This "modification" of expectations could effectively decrease the expectation scores along the reliability dimension, thereby increasing the measurement of service quality.

The DACH emergency treatment room (ETR) provides an excellent example of how this patient education could be used effectively. Currently the ETR treats approximately ninety patients per twenty-four hour period. Many of these patients use the ETR to access primary care for a variety of reasons. Approximately eight percent of the patients are admitted to the hospital. The average waiting time in the ETR (measured from initial triage to being seen by a physician) is approximately three hours. This perceived "long wait" is the source of numerous complaints.

Utilizing John's recommendations, numerous actions should occur to manage the expectations of patients in the ETR. First, the mission of the ETR should be published in the patient handbook and military publications such as "The Belvoir Eagle." Along with the mission to treat acute minor illnesses and emergencies (and not trauma), the publication should include descriptions of the staff and facilities and

an explanation of the triage system used. Finally, the article should candidly express the average waiting time in the ETR. This number should represent a "worst case scenario" so that people considering going to the ETR will know what to expect. Patients seen in less time than the published "worst case scenario" will then have their expectations exceeded. This same model of patient education could be utilized in the other primary care and specialty clinics.

Another aspect of education which could increase the DeWitt system's score along the reliability dimension involves staff education. The DeWitt clinical and administrative staffs should be made aware of the demographic profile of the segment most dissatisfied with the DeWitt system and the source of their greatest dissatisfaction. The staff could then anticipate and guard against potential dissatisfaction by focusing on the patients' need for reliable services when dealing with patients who fit this profile.

Third, the DeWitt system should periodically measure progress in service quality improvements to ensure that choice behavior increases. Given eighteen months until DOD beneficiaries are given a choice of systems under the TRICARE initiative, the SERVQUAL instrument (as used in this study) should be administered on a semi-annual basis.

The measurement of service quality reported in this study should be used as benchmarking data. Subsequent measurements of service quality, utilizing the same survey instrument, would quantitatively depict changes in service quality associated with the service quality initiatives previously discussed.

The final recommendation is that clinics and departments within the DeWitt system utilize the SERVQUAL instrument to benchmark and monitor service quality within their respective areas. The current literature contains examples of the SERVQUAL instrument used in departments of medicine; departments of nursing; long term care units; emergency departments; and primary care clinics (Walbridge and Delene 1993; Scardina; Kleinsorge and Koenig 1991; Mowen, Licata and McPhail 1993; Headley and Miller). As shown earlier, the modified SERVQUAL instrument has been shown to be both valid and reliable for use in military health care settings. Also, the instrument requires only approximately fifteen minutes to complete (the approximate waiting time in most clinics). If used in a clinic or department, the only modification to the instrument would be the deletion of the final item concerning choice of health care systems.

Utilizing the SERVQUAL instrument, clinics and departments could: 1) develop a demographic profile of their customers; 2) determine the dimension of service

quality that their customers deem most important; 3) determine where the most significant gap(s) exist between customer expectations and perceptions of the particular clinic or department; and (4) determine the overall customer satisfaction reported by the customers of the particular clinic or department. Clinic or department chiefs could use this data to develop quality improvement plans and marketing strategies.

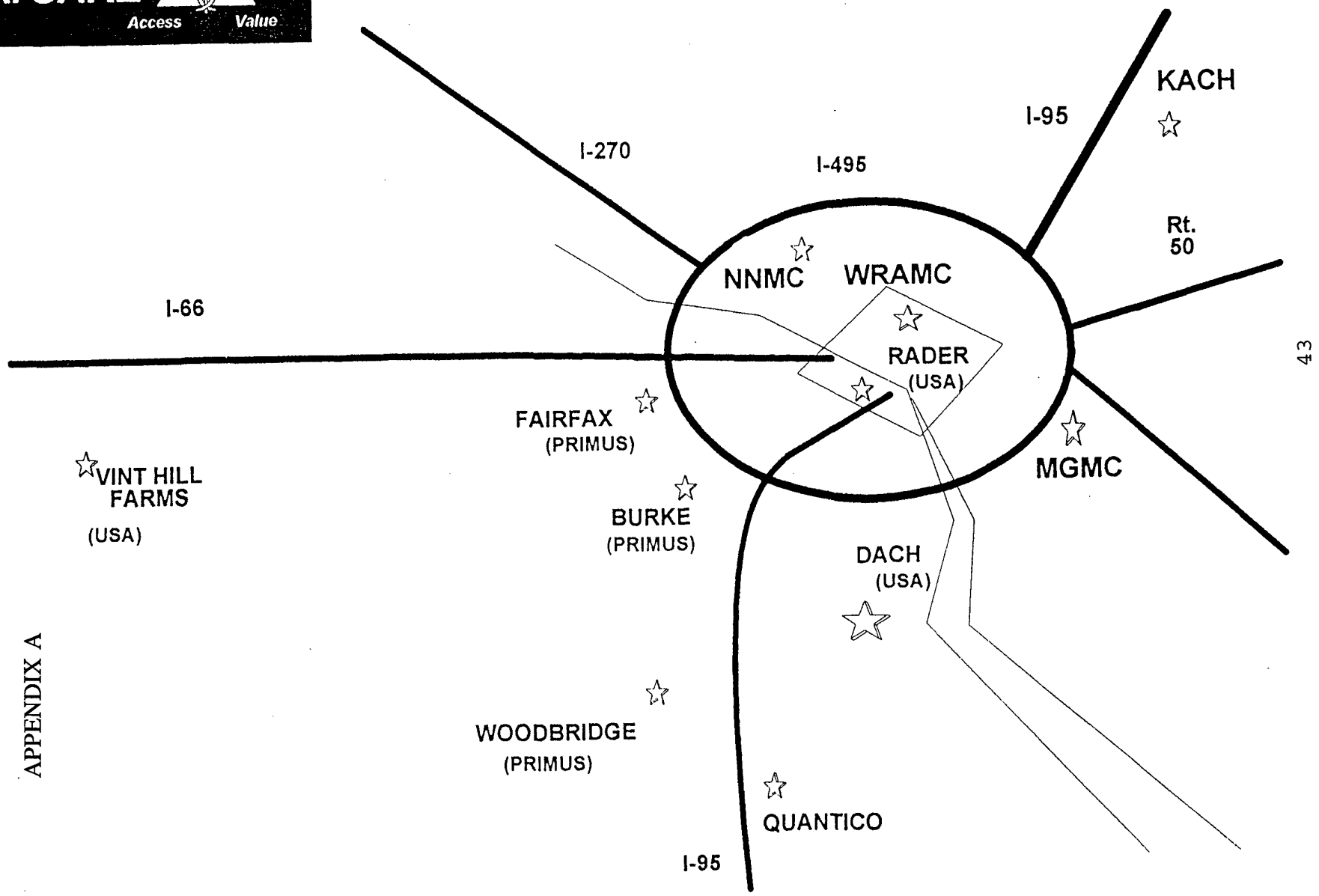
Table 8 depicts a summary of the recommendations for the DeWitt Army Health Care System. Responsible agents are included for each recommendation.

Table 8.--Recommendations Summary

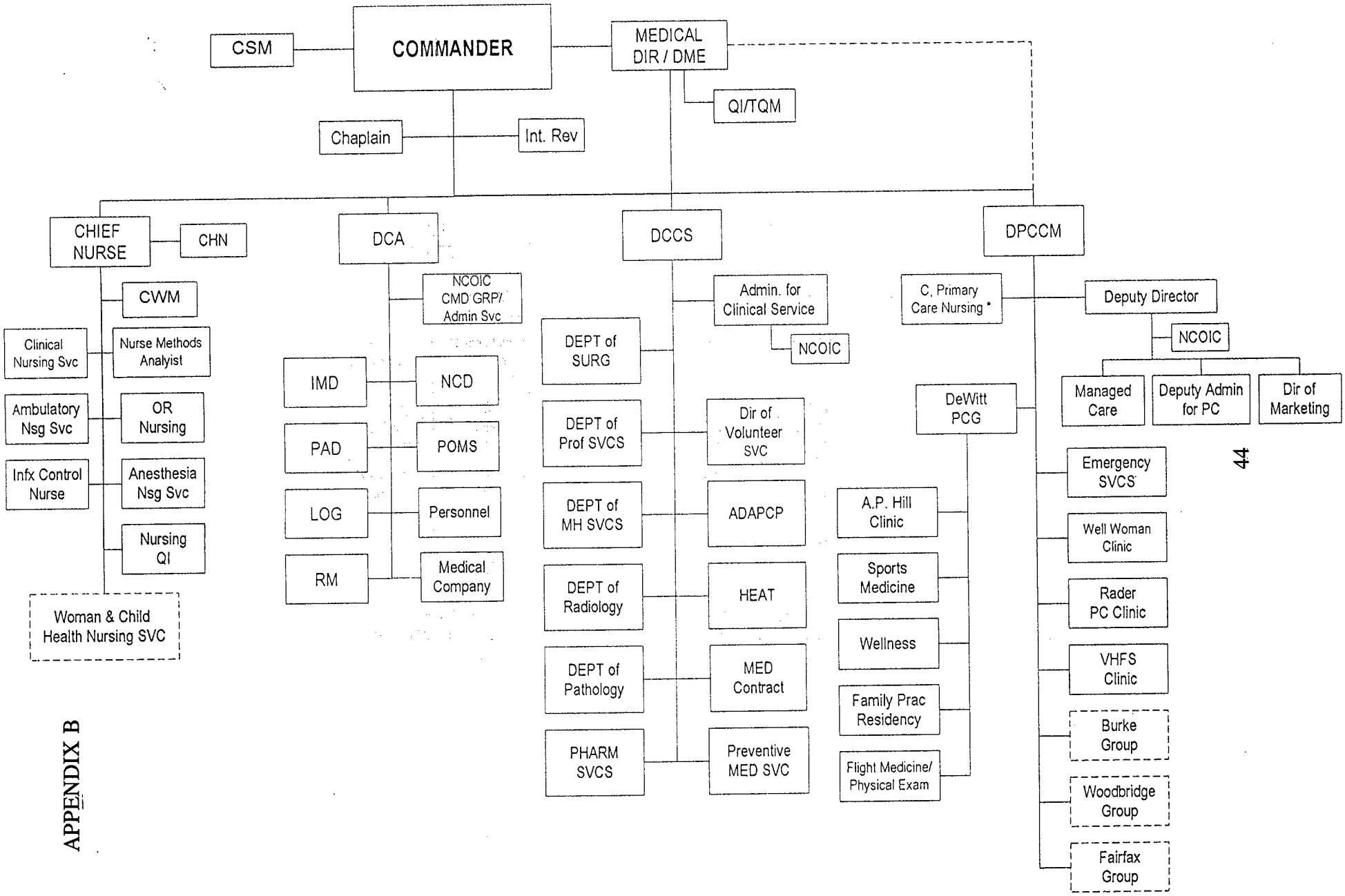
Recommendation	Responsible Agent
1. Focus marketing strategy on appropriate market segment.	Marketing
2. Focus marketing strategy on the reliability of service.	Marketing
3. Manage patient expectations concerning the reliability of service through patient education.	All Staff
4. Educate the staff concerning the demographic profile of dissatisfied customers and their concern for the reliability of service.	Hospital Education and Training, and the Administrative Resident
5. Utilize the SERVQUAL instrument at the department and clinic level.	Department and Clinic Chiefs

Region I
TRICARE
Quality
Access
Value

NCR CATCHMENT AREA (PRESENT)



APPENDIX A



APPENDIX B

* Functions as C, Ambulatory Nursing

APPENDIX C

DEWITT ARMY HEALTH CARE SYSTEM
QUALITY HEALTH CARE
QUESTIONNAIRE

Thank you for taking the time to complete this short questionnaire concerning quality health care services. Your input will be very beneficial in identifying areas in which the DeWitt Health Care System is meeting your expectations of quality health care.

This questionnaire is completely voluntary. You do not have to participate if you do not want to. This questionnaire is also completely anonymous. No one will be able to identify you based upon your answers.

This questionnaire is divided into three sections. The first section is purely demographic data. The second section is made up of statements concerning your expectations of excellent health care institutions. The final section is made up of statements concerning your expectations of the DeWitt Health Care System.

Thank you again for your time and cooperation. Working together on projects such as this will help Dewitt Army Community Hospital to achieve its vision of becoming the health care system of choice for Department of Defense beneficiaries in Northern Virginia.

SECTION I: Demographic Data

Age_____ Gender_____

Beneficiary Status (circle one):

Active Duty	Active Duty Family Member	Retiree	Retiree Family Member	Other

I have utilized the DeWitt Health Care System _____ times within the past year.

THANK YOU. PLEASE PROCEED TO SECTION II.

SECTION II: Excellent Health Care Organizations

Based upon your experiences as a consumer of health services, please think about the kind of health care organization that would deliver excellent quality of service. Think about the kind of health care organization with which you would be pleased to do business. Please show the extent to which you think such a health care organization would possess the feature described by each statement. If you feel a feature is not at all essential for excellent health care organizations such as the one you have in mind, circle the number 1. If you feel a feature is absolutely essential for excellent health care organizations, circle 5. If your feelings are less strong, circle one of the numbers in the middle. There are no right or wrong answers--all we are interested in is a number that truly reflects your feelings regarding companies that would deliver excellent quality of service.

	Strongly Disagree				Strongly Agree
1. Hospitals should have up-to-date equipment.	1	2	3	4	5
2. Hospitals' physical facilities should be visually appealing.	1	2	3	4	5
3. Hospital employees should appear neat.	1	2	3	4	5
4. Hospitals should provide the services at the time they promise to do so.	1	2	3	4	5
5. When patients have problems, hospital employees should be sympathetic and reassuring.	1	2	3	4	5
6. Hospital employees should tell patients exactly when services will be performed.	1	2	3	4	5
7. It is realistic for patients to expect prompt service from hospital employees.	1	2	3	4	5
8. Hospital employees should always be willing to help patients.	1	2	3	4	5
9. Patients should be able to feel safe in their interactions with hospital employees.	1	2	3	4	5

	Strongly Disagree				Strongly Agree
10. Hospital employees should be knowledgeable.	1	2	3	4	5
11. Hospital employees should be polite.	1	2	3	4	5
12. Hospital employees should get adequate support from their employers to do their jobs well.	1	2	3	4	5
13. Hospital employees should be expected to give patients personal attention.	1	2	3	4	5
14. It is realistic to expect hospitals to have their patients' best interests at heart.	1	2	3	4	5

Listed below are five features pertaining to health care organizations and the services they offer. We would like to know how important each of these features is to you when you evaluate a health care organization's quality of service. Please allocate a total of 100 points among the five features *according to how important each feature is to you*--the more important a feature is to you, the more points you should allocate to it. Please ensure that the points you allocate to the five features add up to 100.

1. The appearance of the health care organization's physical facilities,equipment, personnel and communications materials.	_____points
2. The health care organization's ability to perform the promised service dependably and accurately.	_____points
3. The health care organization's willingness to help customers and provide prompt service.	_____points
4. The knowledge and courtesy of the health care organization's employees and their ability to convey trust and confidence.	_____points
5. The caring, individualized attention the health care organization provides its customers.	_____points
TOTAL POINTS ALLOCATED	100

SECTION III. The DeWitt Health Care System

The following set of statements relate to your feelings about the DeWitt Health Care System. For each statement, please show the extent to which you believe the DeWitt Health Care System has the feature described by the statement. Once again, circling a 1 means that you strongly disagree that DeWitt has that feature, and circling a 5 means that you strongly agree. You may circle any of the numbers in the middle that show how strong your feelings are. There are no right or wrong answers--all we are interested in is a number that best shows your perceptions about the DeWitt Health Care System.

	Strongly Disagree				Strongly Agree
1. DeWitt has modern-looking equipment.	1	2	3	4	5
2. DeWitt's physical facilities are visually appealing.	1	2	3	4	5
3. DeWitt's employees appear neat.	1	2	3	4	5
4. DeWitt provides its services at the time it promises to do so.	1	2	3	4	5
5. When patients have problems, DeWitt's employees are sympathetic and reassuring.	1	2	3	4	5
6. DeWitt employees tell patients exactly when services will be performed.	1	2	3	4	5
7. Patients receive prompt service from DeWitt's employees.	1	2	3	4	5
8. DeWitt's employees are always willing to help patients.	1	2	3	4	5
9. Patients feel safe in their interactions with DeWitt's employees.	1	2	3	4	5
10. DeWitt's employees are knowledgeable.	1	2	3	4	5
11. DeWitt's employees are polite.	1	2	3	4	5
12. Employees get adequate support from DeWitt to do their jobs well.	1	2	3	4	5

	Strongly Disagree				Strongly Agree
13. DeWitt's employees give patients personal attention.	1	2	3	4	5
14. DeWitt employees have patients' best interests at heart.	1	2	3	4	5

	Very Dissatisfied				Very Satisfied
In terms of quality of care received at the DeWitt Army Health Care System, I am...	1	2	3	4	5

Given the opportunity, I would choose to receive health care services at (check one):

_____ The DeWitt Army Health Care System
_____ A military medical center such as Walter Reed
_____ A civilian health care system

ONCE AGAIN, THANK YOU FOR YOUR TIME AND COOPERATION.

APPENDIX D
DESCRIPTIVE STATISTICS

Item	Mean
Expectations	
1. Hospitals should have up-to-date equipment.	4.703
2. Hospitals' physical facilities should be visually appealing.	4.102
3. Hospital employees should appear neat.	4.567
4. Hospitals should provide the services at the time they promise to do so.	4.643
5. When patients have problems, hospital employees should be sympathetic and reassuring.	4.518
6. Hospital employees should tell patients exactly when services will be performed.	4.481
7. It is realistic for patients to expect prompt service from hospital employees.	4.287
8. Hospital employees should always be willing to help patients.	4.656
9. Patients should be able to feel safe in their interactions with hospital employees.	4.765
10. Hospital employees should be knowledgeable.	4.713
11. Hospital employees should be polite.	4.665
12. Hospital employees should get adequate support from their employers to do their jobs well.	4.749

Item	Mean
13. Hospital employees should be expected to give patients personal attention.	4.171
14. It is realistic to expect hospitals to have their patients' best interests at heart.	4.677
Perceptions	
1. DeWitt has modern-looking equipment.	3.393
2. DeWitt's physical facilities are visually appealing.	3.332
3. DeWitt's employees appear neat.	3.949
4. DeWitt provides its services at the time it promises to do so.	3.387
5. When patients have problems, DeWitt's employees are sympathetic and reassuring.	3.531
6. DeWitt employees tell patients exactly when services will be performed.	3.447
7. Patients receive prompt service from DeWitt's employees.	3.339
8. DeWitt's employees are always willing to help patients.	3.617
9. Patients feel safe in their interactions with DeWitt's employees.	3.790
10. DeWitt's employees are knowledgeable.	3.804
11. DeWitt's employees are polite.	3.829
12. Employees get adequate support from DeWitt to do their jobs well.	3.463
13. DeWitt's employees give patients personal attention.	3.551
14. DeWitt employees have patients' best interests at heart.	3.740

In terms of quality of care received at the DeWitt Army Health Care System, I am...	3.778
Given the opportunity, I would choose to receive health care services at:	
The DeWitt Army Health Care System	.6881
A civilian health care system	.3119

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